



IOS #12

SHEET 1 OF 1

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| FORM PTO-1449<br>OCT 18 2002<br>PATENT & TRADEMARK OFFICE<br>SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT<br>BY APPLICANT<br>(USE SEVERAL SHEETS IF NECESSARY) | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>UMACH.003A | APPLICATION NO.<br>09/843,025 |
|   | APPLICANT<br>Chen-Wei Chiu et al.                          |                                |                               |
|   | FILING DATE<br>April 25, 2001                              | GROUP<br>2829                  |                               |

## U.S. PATENT DOCUMENTS

| EXAMINER<br>INITIAL |    | DOCUMENT NUMBER | DATE     | NAME              | CLASS | SUBCLASS | FILING DATE<br>(IF APPROPRIATE) |
|---------------------|----|-----------------|----------|-------------------|-------|----------|---------------------------------|
| SBG                 | 1  | US 2002/0018613 | 02/14/02 | Bozler et al      | —     | —        |                                 |
| SBG                 | 2  | US 5,226,099    | 07/06/93 | Mignardi          | —     | —        |                                 |
| SBG                 | 3  | US 6,172,797 B1 | 01/09/01 | Huibers           | —     | —        |                                 |
| SBG                 | 4  | US 6,201,629 B1 | 03/13/01 | McClelland et al. | —     | —        |                                 |
| SBG                 | 5  | US 6,205,267 B1 | 03/20/01 | Aksuyk et al      | —     | —        |                                 |
| SBG                 | 6  | US 6,307,663 B1 | 10/23/01 | Kowarz            | —     | —        |                                 |
| SBG                 | 7  | US 6,351,329 B1 | 02/26/02 | Greywall          | —     | —        |                                 |
| SBG                 | 8  | US 6,396,619 B1 | 05/28/02 | Huibers et al.    | —     | —        |                                 |
| SBG                 | 9  | US 6,407,851 B1 | 06/18/02 | Islam et al.      | —     | —        |                                 |
| SBG                 | 10 | US 6,424,450 B1 | 07/23/02 | Goossen           | —     | —        |                                 |
| SBG                 | 11 | US 6,433,917 B1 | 08/13/02 | Mei et al.        | —     | —        |                                 |

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| EXAMINER<br>INITIAL |  | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION |
|---------------------|--|-----------------|------|---------|-------|----------|-------------|
| <del>INITIAL</del>  |  |                 |      |         |       |          | YES NO      |

## OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

| EXAMINER<br>INITIAL |    |  |
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| SBG                 | 12 | PCT International Search Report dated September 16, 2002 |
| SBG                 | 13 | PCT International Search Report dated September 24, 2002 |

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| EXAMINER<br><i>Det B. 12</i>   | DATE CONSIDERED<br><i>5/14/03</i> |
| *EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT. |                                   |

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FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.  
UMACH.003A

APPLICATION NO.  
09/843,025

INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT

APPLICANT  
Chiu, et al.

FILING DATE  
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(USE SEVERAL SHEETS IF NECESSARY)

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| SBG                 | 4,386,244       | 05/31/83 | Murakami, et al.    | —     | —        |                                 |
| SBG                 | 5,322,258       | 06/21/94 | Bosch, et al.       | —     | —        |                                 |
| SBG                 | 5,398,011       | 03/14/95 | Kimura, et al.      | —     | —        |                                 |
| SBG                 | 5,501,893       | 03/26/96 | Laerner, et al.     | —     | —        |                                 |
| SBG                 | 5,557,132       | 09/17/96 | Takahashi           | —     | —        |                                 |
| SBG                 | 5,629,918       | 05/13/97 | Ho, et al.          | —     | —        |                                 |
| SBG                 | 5,724,015       | 03/03/98 | Tai, et al.         | —     | —        |                                 |
| SBG                 | 5,872,496       | 02/16/99 | Asada, et al.       | —     | —        |                                 |
| SBG                 | 6,136,212       | 10/24/00 | Mastrangelo, et al. | —     | —        |                                 |
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| EXAMINER<br>INITIAL | OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)  |
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| SBG                 | Free-Space Micromachined Optical Switches for Optical Networking, L.Y. Lin, E.L. Goldstein, and R. W. Tkach, IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS, Vol. 5, No. 1, January/February 1999, pp. 4-9.   |
| SBG                 | Hybrid-integrated laser-diode micro-external mirror fabricated by (110) silicon micromachining, Y. Uenishi, M. Tsugai, and M. Mehregany, ELECTRONICS LETTERS, 8th June 1995, Vol. 31, No. 12, pp. 965-966.  |
| SBG                 | Integrated Parylene Micro Electro Mechanical Systems (MEMS), Xuan-Qi Wang, California Institute of Technology, Pasadena, California, 2000, pp. 1-14.  |
| SBG                 | Laser diode wavelength locking using a micromachined silicon mirror, Neila Kaou, Cedrick Chappaz, Skandar Basrour, and Michel de Labachellerie, Part of the Symposium on Design, Test, and Microfabrication of MEMS and MOEMS, Paris, France, March-April 1999, pp. 765-772.  |
| SBG                 | Microactuators with moving magnets for linear, torsional or multiaxial motion, B. Wagner, W. Benecke, G. Engelmann, and J. Simon, SENSORS AND ACTUATORS A, Vol. 32, 1992, pp. 598-603.  |
| SBG                 | Optical and Surface Characterization of Poly-Si Replica Mirrors for an Optical Fiber Switch, Makoto Mita, Philippe Hélin, Daisuke Miyauchi, Hiroshi Toshiyoshi, and Hiroyuki Fujita., TRANSDUCERS '99, June 7-10, 1999, Sendai, Japan, pp. 332-335.   |
| SBG                 | Self Aligned Vertical Mirrors and V-Grooves Applied to a Self-Latching Matrix Switch for Optical Networks, Philippe Hélin, Makoto Mita, and Hiryouuki Fujita, IEEE MEMS 2000, 23-27 Jan. 2000, pp. 467-472.   |
| SBG                 | Tunable Micromirror Switches Using (110) Silicon Wafer, Kyoung-Sun Seo, Young-Ho Cho and Sung-Kie Youn, MHS'96 Proceedings of the Seventh International Symposium on Micro Machine and Human Science, Technical Session A-1, Microfabrication, Nagoya Municipal Industrial Research Institute, Library of Congress Number: 96-77510, pp. 73-77. |

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| EXAMINER   | AcotB. Dz | DATE CONSIDERED | 5/8/03 |
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|---------------------|----------------------|---------------------|--------------------------------|--------------|--------------|---------------------------------|
| SBG                 | <del>4,986,244</del> | <del>5/31/89</del>  | <del>Morokami, et al.</del>    | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>5,322,258</del> | <del>6/24/04</del>  | <del>Bosch, et al.</del>       | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>5,808,041</del> | <del>3/14/06</del>  | <del>Kimura, et al.</del>      | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>5,501,893</del> | <del>3/26/96</del>  | <del>Loewner, et al.</del>     | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>5,557,132</del> | <del>9/17/90</del>  | <del>Takahashi</del>           | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>5,629,910</del> | <del>5/13/97</del>  | <del>HO, et al.</del>          | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>5,724,045</del> | <del>3/3/98</del>   | <del>Jai, et al.</del>         | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>5,872,490</del> | <del>2/16/99</del>  | <del>Asada, et al.</del>       | <del>—</del> | <del>—</del> |                                 |
| SBG                 | <del>6,130,212</del> | <del>10/24/00</del> | <del>Mastrangelo, et al.</del> | <del>—</del> | <del>—</del> |                                 |
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|                     |                 |      |         |       |          | YES         | NO |
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|---------------------|---|
| SBG                 | Integrated Polymeric Micro Electro Mechanical Systems (MEMS); doctoral thesis of Xuan-Qi Wang from California Institute of Technology, Pasadena, California; 2000; pages 1-14 |
| SBG                 | "Self-Aligned Vertical Mirrors and V-Grooves Applied to a Self-Latching Matrix Switch for Optical Networks," Philippe Heilm, et al., MEMS'00, pp. 467-472, 2000.              |
| SBG                 | "Optical and Surface Characterization of Poly-Si Replica Mirrors for an Optical Fiber Switch," Makota Mita, et al., Transducers'99, pp. 332-335, 1999.                        |
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EXAMINER *Sub. B.* DATE CONSIDERED *5/8/03*

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| SBG                 | <del>"Microactuators with Moving Magnets for Linear, Torsional or Multiaxial Motion," B. Wagner, et al., Sensors and Actuators, vol. 4, pp. 595-603, 1992.</del>                     |
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